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ABSTRACT

In academia, theorists in rhetoric are interested in viewing how race, gender, and class come into play in the language of literature. The same might be done with popular science texts. A rhetorical analysis of "Sperm Wars," a popular science article published in "Discover" magazine, suggests that cultural assumptions inform the language of science as well as the language of the humanities. In fact, the politically-charged metaphors employed by scientists stand to cause harm as they reinforce certain cultural assumptions as "natural," rooted in biology. The metaphors that dominate this article are: (1) sperm as militaristic entity, combatting and battling its way to victory; (2) sperm as strong, sexual aggressor, staunchly pursuing its goal amidst unspeakable danger; (3) sperm as representative of capitalistic, economic theory, competing against or working as team player with his sperm coworkers. The metaphors used to discuss the egg, however, remain consistent through the article. Whenever an egg is mentioned, which is not often, the language depicts images of nurturance and passivity. While the female metaphors reinforce narrow notions of femininity, the male metaphors naturalize military action. Within a culture whose government spends more money on militaristic endeavors than any other nation in the world, to look at sperm as another militarized zone is to permit and condone militaristic government action. Other metaphors naturalize economic notions such as competition, means of production, cost effectiveness, quality control, and mass production. Science should avoid such evaluative language and metaphor. (TB)

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Gender and the Rhetoric of Reproduction in Popular Science Texts

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"Gender and the Rhetoric of Reproduction in Popular Science Texts"

by

Elisa Lurkis

Although the notion that language is inevitably laden with implicit cultural assumptions and political agendas is not an easy one to grasp, it is nonetheless becoming widespread. For example, within the field of cultural anthropology, the writing of ethnography has begun to focus less on the foreign culture being observed, and more on the writer him or herself, and how he or she constructs narratives which fit into a Western cultural paradigm. In addition, within the fields of rhetoric and literary criticism, theorists are particularly interested in viewing how race, gender and class come into play in the language of literature. This practice is beginning to be applied not only to texts within academia, but to popular texts as well. It is perhaps no place more important to uncover and question the power dynamics of language then within popular scientific texts. It is popular science accounts which reach a mass audience, and which reinforce on a mainstream level certain commonly held beliefs about what is "natural" behavior for men and for women. If we leave these beliefs unquestioned, then the notion that men are "naturally" dominant and women are "naturally" passive will remain intact, and an unequal distribution of power between the sexes will continue to prevail.

In this presentation, I am using rhetorical analysis to reveal certain cultural assumptions about gender existing within and behind the language of an article recently published in Discover magazine titled "Sperm Wars" by Meredith Small. Small attempts to describe the difficult journey which sperm must endure while travelling the precarious road towards the egg. What I have found is that the metaphors used to discuss sperm take on three different forms, some

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of which overlap. The metaphors which dominate this article are: 1) sperm as militaristic entity, combatting and battling its way to victory, 2) sperm as a strong, sexual aggressor, staunchly pursuing its goal amidst unspeakable danger, and 3) sperm as representative of capitalistic, economic theory, competing against or working as a team player with his fellow sperm coworkers. The metaphors used to discuss the egg, however, remain consistent throughout the article. Whenever the egg is mentioned, which isn't often, the language used depicts images of nurturance and passivity.

To begin with, the title "Sperm Wars" is loaded in and of itself. It evokes images of sperm clad in armor, chivalrously duking it out in the name of the fair maiden, the egg. It is also reminiscent of "Star Wars", both a movie and a high-tech, billion dollar defense system. One imagines the Luke Skywalker of sperm, complete with light-saber and equipped with the powers of "the force", fighting to reach Princess Leah, the egg. In terms of the Strategic Defense Initiative (SDI or "Star Wars), the title connotes the idea of sperm launching themselves at other sperm, hurtling through space to protect the egg from foreign invaders.

Indeed, these militaristic metaphors are a theme throughout this particular version of the story of conception. We are told that in species where multiple matings occur with multiple males, certain sperm sacrifice themselves to form vaginal plugs, in order to block other males' sperm from getting through. These sperm are called "kamikaze sperm" and they in fact give themselves up to "further the success of their brothers" (49). These plugs apparently are deposited not only at the opening of the cervix, but also on the inside, at

important junctions such as the openings of the fallopian tubes. This is because "any male might remove the vaginal plug of another male through penetration, but breaking through interior blocks would be a challenge to sperm alone -possibly a job for other specialist brigades" (50). We imagine the Norman Schwarzkopf of sperm, sending in a special team of experts to handle this difficult assignment. The low level soldiers would doubtlessly be the kamikaze sperm, having been indoctrinated with enough patriotic rhetoric to be willing to give up their lives, while the sperm at the top get all the credit. The author asks "Could [the kamikaze sperm] be the real workhorses, while the egg-getters are the exceptional ones designed for the cushiest part of the job?" (50). The article also tells us that another way that bad sperm (those incapable of fertilization) can help is through "search-and-destroy" techniques. This technique involves "killing foreign sperm with enzymes." Thus, the bad sperm seek out and kill off the enemy, clearing the path for the egg-getters. In addition, the author marvels that during ejaculation the sperm are able to survive the procedure, when "catapulted forward at speeds up to 200 inches per second, sperm undergo intense shearing forces that could rip them apart" (51). She is quite impressed with the sperm's capability of being "fired intact" through a tiny tube.

All of these metaphors serve, on some level, to naturalize military action. Within a culture whose government spends more money on militaristic endeavors than any other nation in the world, to look at sperm as another militarized zone is to some extent to permit and condone governmental, militaristic action. In other words, if we look at the "naturalized" world as a place where war

"naturally" occurs, then "real" war becomes natural and necessary. This is not to imply that such science creates war. As Donna Haraway states, "Such structures enable and constrain meanings; they do not directly produce them" (111). Nonetheless, if war is a natural part of procreation, it must subsequently be a natural part of life. The erogenous zone becomes a militarized zone. It thus becomes harder to justify reduction in military spending, disarmament, and the like.

Unfortunately, "Sperm Wars" takes none of this into account. Instead, sperm are praised and glorified using metaphors which connote sexual aggression and rape. Sperm are called "active pursuers" while the egg is "relatively passive" (52). Once the sperm "finds" the egg -implying some sort of hide and seek chase- it "bores in and achieves conception". Thus, it is implied that the sperm "penetrates" the egg against her will, and the sperm is then credited as being solely responsible for conception occuring. The egg is given no credit for its contributions. The sperm is said to "harpoon" and "penetrate" the egg, combining both militaristic and sadomasochistic metaphors, which really shouldn't be surprising, given that our culture is one in which the line between sexuality and violence is blurry at best.

Perhaps the predominant metaphor in "Sperm Wars" is one of corporate production. It makes sense, however, that when science industry operates in a capitalist system, economic notions such as competition, the means of production, cost effectiveness and quality control would be evident in scientific journalism. Most of these metaphors clearly relate to familiar forms of mass production, where

value is placed on large quantities and on efficiency of scale. In these terms, male production of sperm wins hands down for both quantity and continuity of production (Martin xiv). Female production of eggs loses because it is understood as finished at birth, after which can follow only aging and degeneration. In "Sperm Wars" Small marvels at sperms' capability to work together, claiming that they "beat the competition through teamwork" (49). When pondering the explanation of "good" versus "bad" sperm, Small calls this a theory of "lax quality control" (49). She claims that until it was realized that these bad sperm served a purpose, -to ward off other competing sperm- it was thought that rejects were "just one of nature's little mistakes", and should be expected, "given the body's assembly-line production methods" (50). Yet, even in spite of this "sloppy workmanship", there are enough gametes to do the job. Thus, similar to the ways which militaristic metaphors naturalize the military, so too do capitalistic and production metaphors naturalize capitalism. By creating and "discovering" elements of capitalism in our own biology, than it makes sense that in the real world it is only "natural" to operate under such a system. If one tries to challenge these notions with Marxist or socialist thought, one is therefore "challenging nature".

It is important to realize that there are other possible ways of explaining the story of conception. For example, instead of looking at the sperm as the active and dominating one who does all the work while the egg lies passively waiting, suppose we saw the egg as reeling the sperm in, sucking them in at such a force that they are helpless to resist? Wouldn't our conventional notions of what is

naturally male and female be sufficiently challenged if we began to recognize the egg as being more than just a lady-in-wait? Would we as a culture be as capable of justifying male violence and dominance if our biology began to reflect otherwise?

Unfortunately, in "Sperm Wars" the egg is merely a passive receptacle. Needless to say, the egg is hardly mentioned in this article, but when it is discussed, it is with pretty language which depicts a good, nurturing, passive housewife and mother. The article states that during ovulation the influence of estrogen changes the vaginal mucus. It thins out and breaks up; "the strands form a pattern like the fronds of a Boston fern" (51). Imagine comparing ovulatory vaginal mucus with a houseplant!! Then once inside the uterus, the female body "bathes the sperm in glucose, giving the sperm a new burst of energy" (51). Not only does the female body serve the role of mothering the sperm by bathing it, but it also serves as a cheerleader, standing on the sidelines and egging the sperm on (so to speak). Then, other substances in the uterus "wipe a layer of proteins off sperm heads, which prepares them to fire their penetrating enzymes" (52). We imagine a mother wiping the mud off of her son's face before he bravely rejoins the football game.

It is clear that the language and metaphors used in this article (and in others like it) are not innocent. Indeed, the language of popular science (or of any field) rarely is. All language is perpetuated by certain agendas, whether intentional or not. The key is to heighten awareness of the structural systems under which this language operates. I am not advocating that science try to "escape" from using evaluative language and metaphor. This would not be

possible, nor would it be desirable. However, whatever metaphors are used inevitably exclude others; metaphors are selectively chosen. Therefore, it is tremendously important that we maintain this critical role of the metaphors in popular scientific writing. By revealing the underlying cultural assumptions in scientific visions of the body, by clarifying the complex ways scientific discoveries lead to cultural understandings of life, we can document and change the ways that bodies of women and men are inevitably entangled in the operations of power.

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